

# ADE IT Modernization Effort Update



Presented to:  
Arizona Data Governance Commission  
October 19, 2012

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Chief Information Officer

# Agenda

- AELAS Business Case
  - Review and to prepare to approve recommendations for next meeting
- SLDS pilot update
  - Discussion on why Ed-Fi is needed as a standard
- IMS approval and direction
  - Direct federated access (Using SAML) for all state LEAs to access State Education Systems with implementation complete by start of FY15 school year
- Data Governance approval and direction
  - Approve use of CEDS logical data model for ADE internal data use (Master Data Management) with immediate implementation
  - Approve use of Ed-Fi for the ADE internal physical data model
  - Approve Ed-Fi as the single state Education (K-12) physical data standard for bi-directional data interchanges (Between LEAs and ADE) for all state-mandated data requirements. Complete statewide implementation by beginning of FY2015 school year.
- Budget Summary Update
  - Resource requests



Jolene Newton

# **AELAS BUSINESS CASE**

Review and prepare to approve recommendations

# Call to Action

- 1) Read the Executive Summary of the Business Case
  - a) Forwarded to each member week of October 22
  - b) Full business case will be sent on November 5
- 2) Synthesize the approach, data analysis, and recommendations
  - a) Financial Investment
  - b) Timeline
- 3) Before next Data Governance Commission meeting be prepared to:
  - a) Direct operate as Status Quo
  - b) Approve recommendations as provided
  - c) Provide Alternatives or additional research recommendations

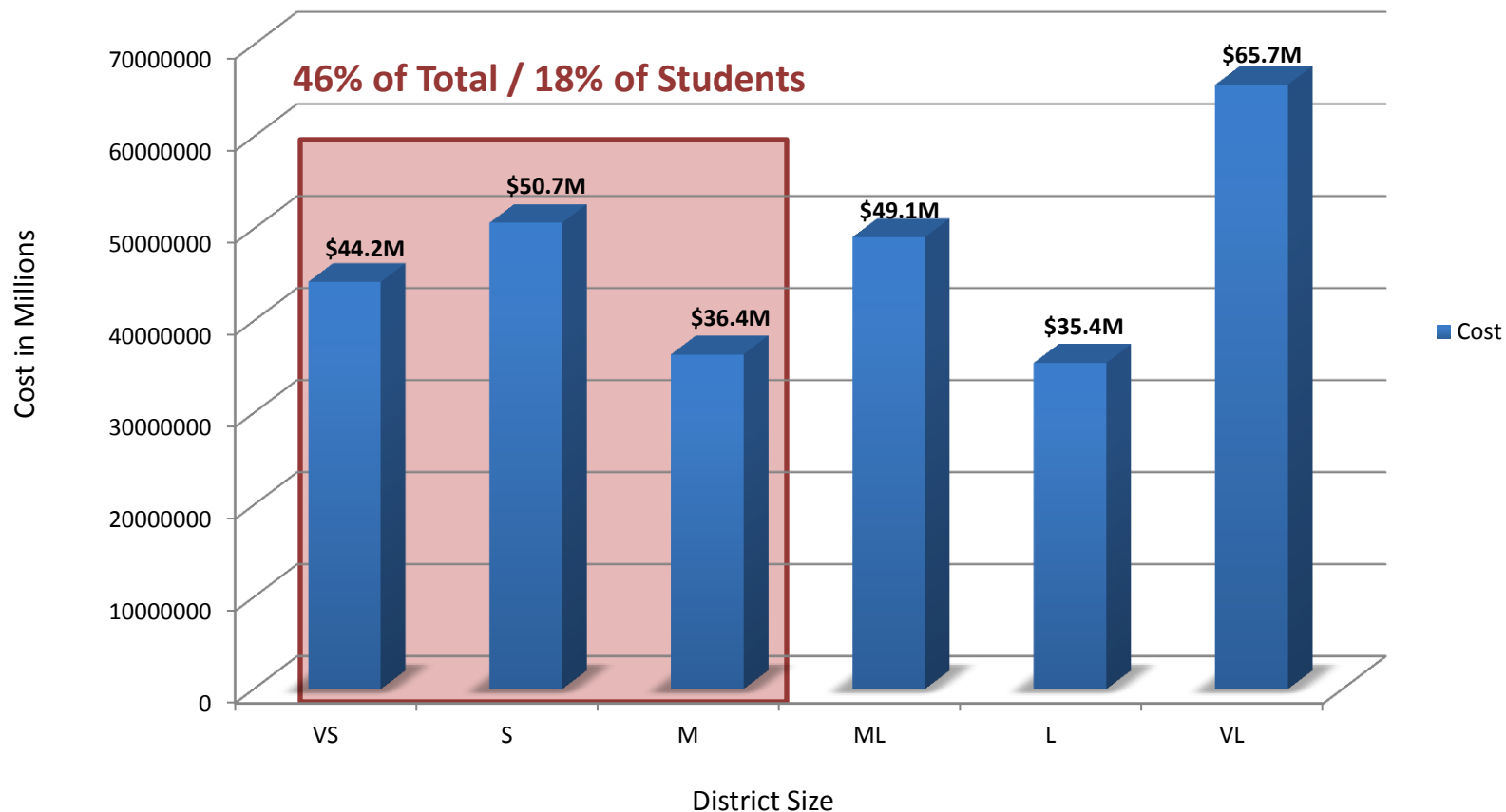
# Define the “What” (Our Approach)

- Systematic approach through ‘purposive sampling’
  - Surveys, Site Visits, Focus Groups, Phone Interviews
  - Nearly 200 districts participated
    - 30% of all Districts
    - 57% of students statewide
- Enterprise Architects performed internal audit of culture, process, and technologies
  - Workflow Process Maps
  - Performance Analysis
  - Data Error Analysis
  - Root Cause Analysis
- Business Analysts performed alignment of policy drivers to objectives, benefits, business change, and IT enablers
  - Benefit Dependency Network Analysis

# Key Finding from District Research

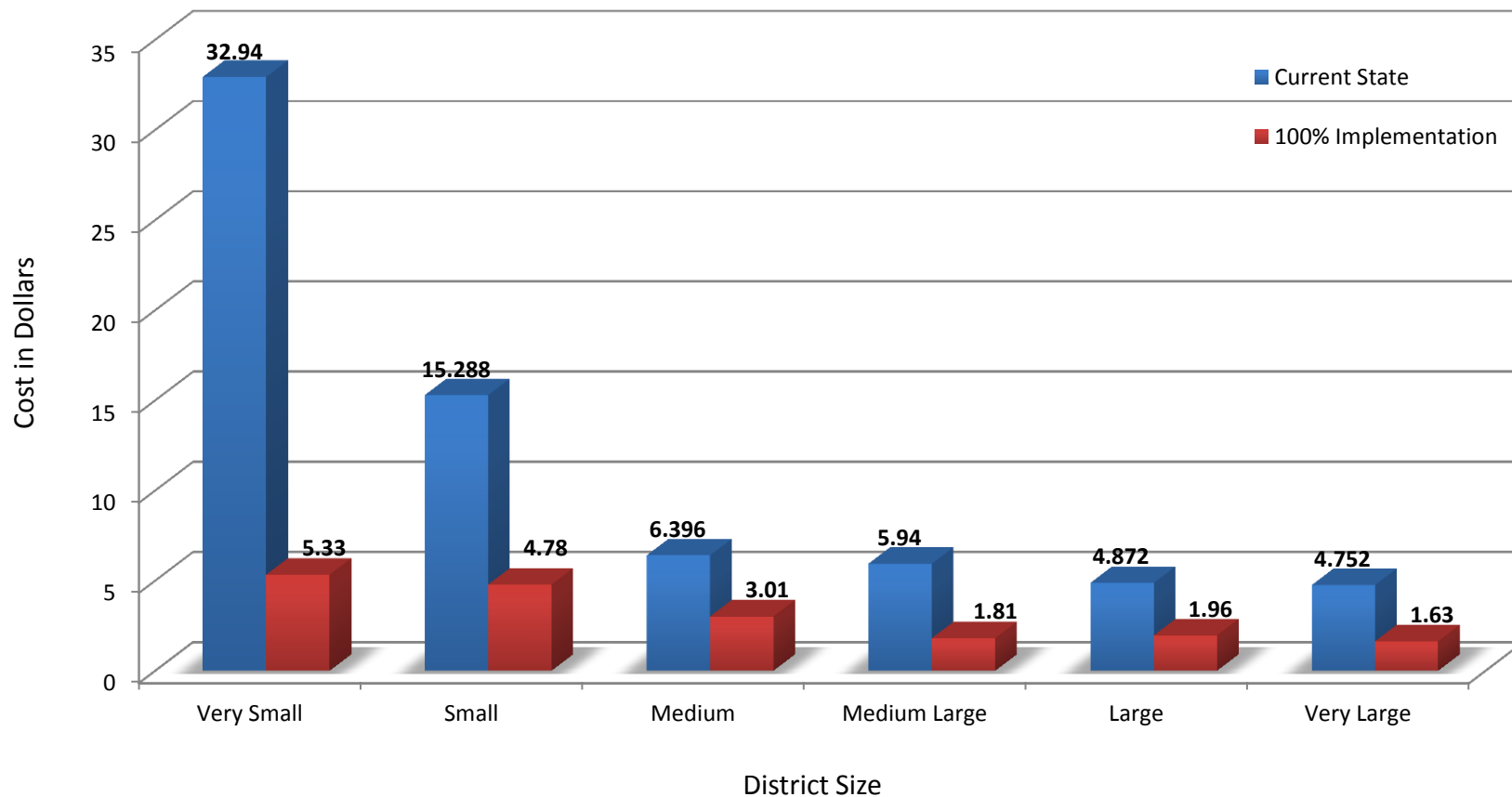
Annual Cost per District Category

TOTAL = \$281 Million



# Key Finding from District Research

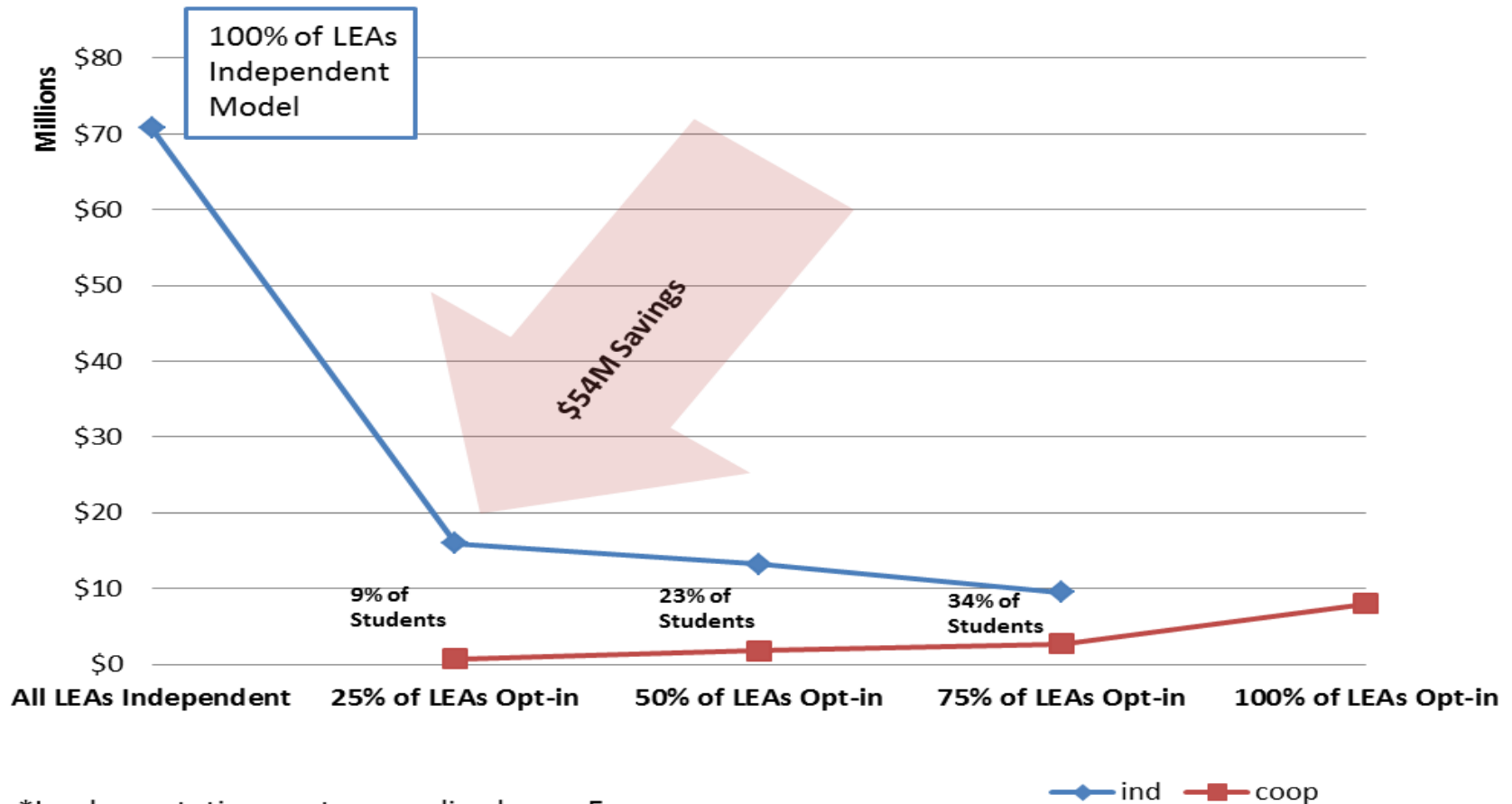
Average per Student Cost per Application\*



\*Assumes a per-Student cost for every system

# Savings Projections

## Student Information System Savings \*



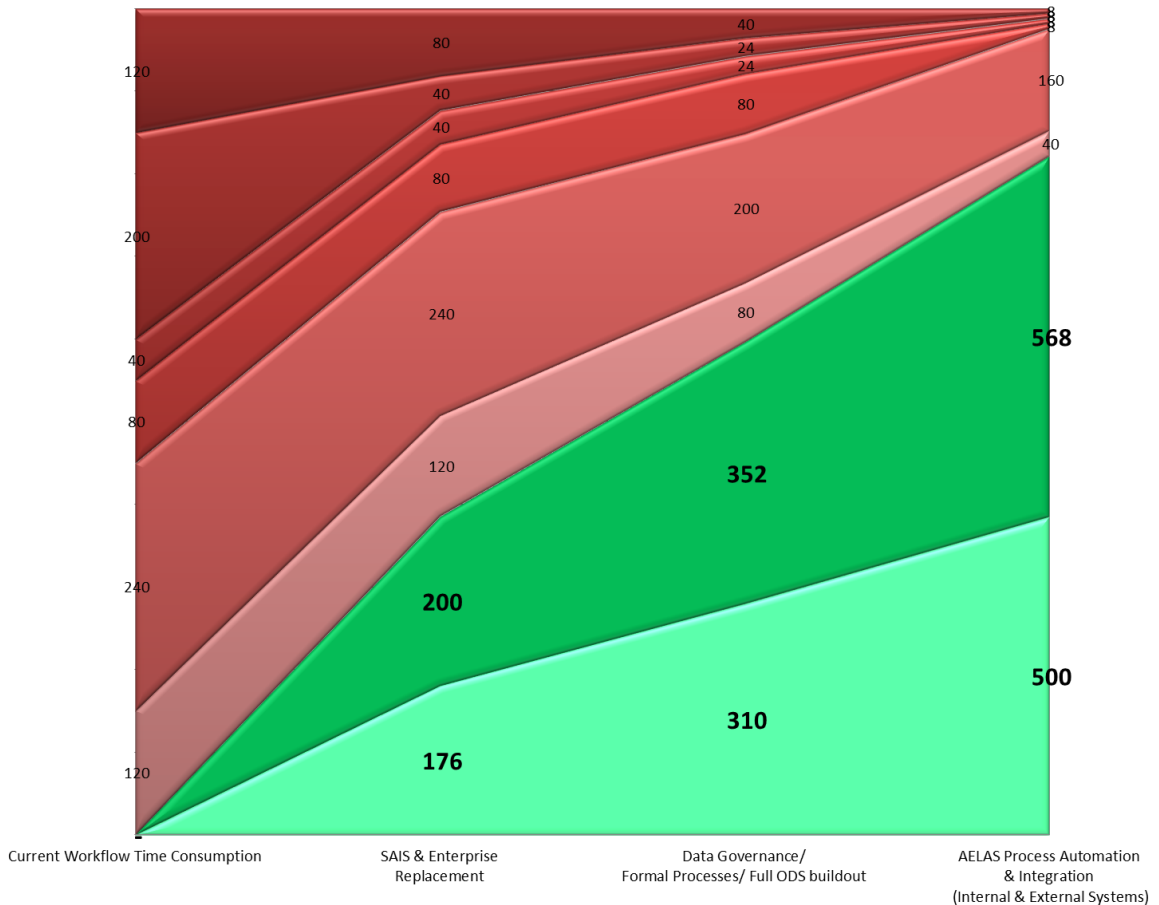
\*Implementation costs annualized over 5 years



# Key Finding from ADE Research

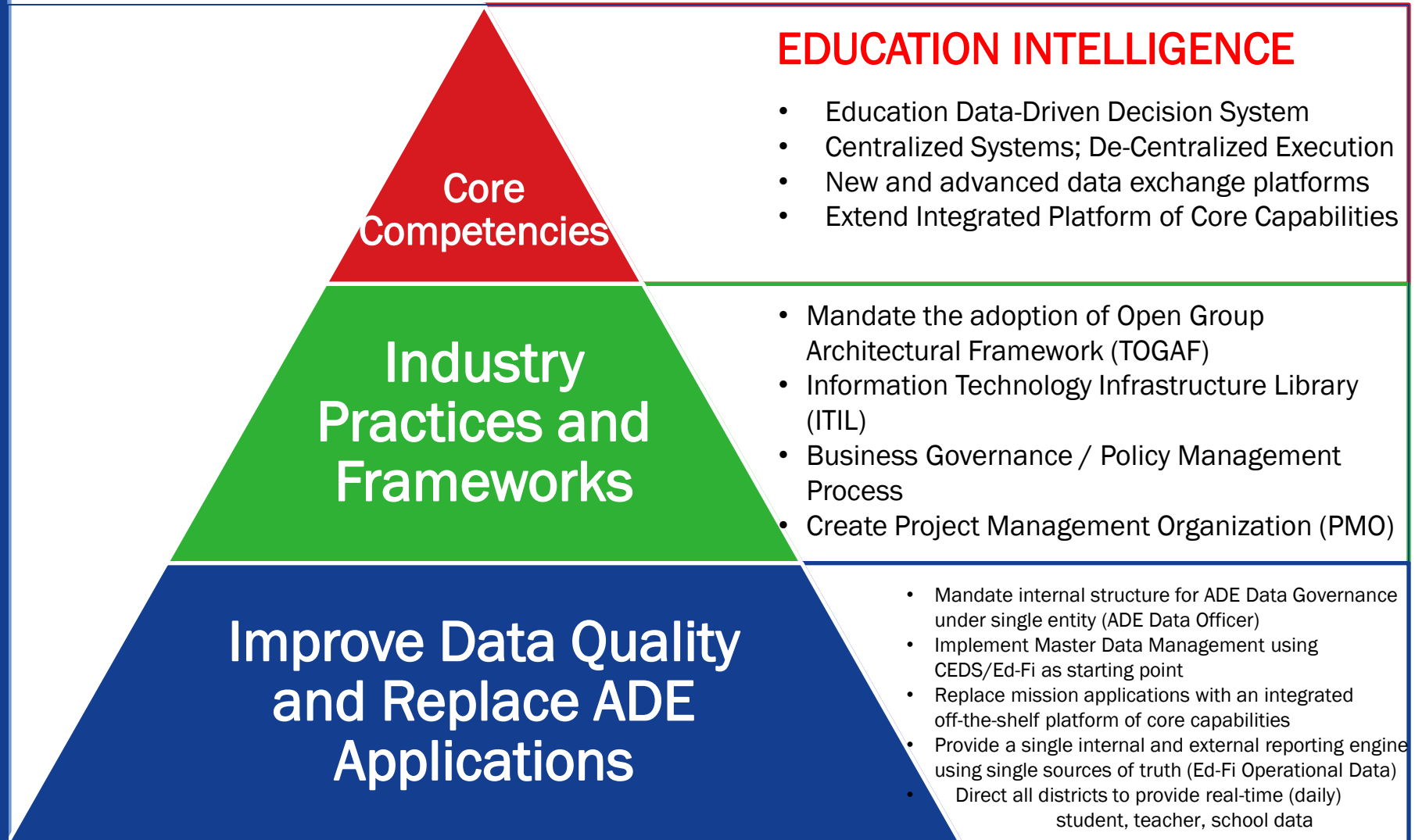
**AELAS ADE Anticipated Productivity Improvement (in '000 of hours)**

- Identifying/Interpreting/Collecting Data
- Validating/Correcting Data
- Reverifying Collected Data (Reporting)
- Coordinating Data (internal entities)
- Executing Program Areas Processes
- Interface for other processes (e.g. grants, R&E, etc)
- SEA Program Tactical & Strategic Value Added
- LEA Tactical and Strategic Value Added



**Key Capability Milestones Impacts**

# Recommendation Hierarchy





Glen McMath

## **IDENTITY MANAGEMENT SOLUTION (IMS)**

Direct federated identity management approach for LEA access to ADE data

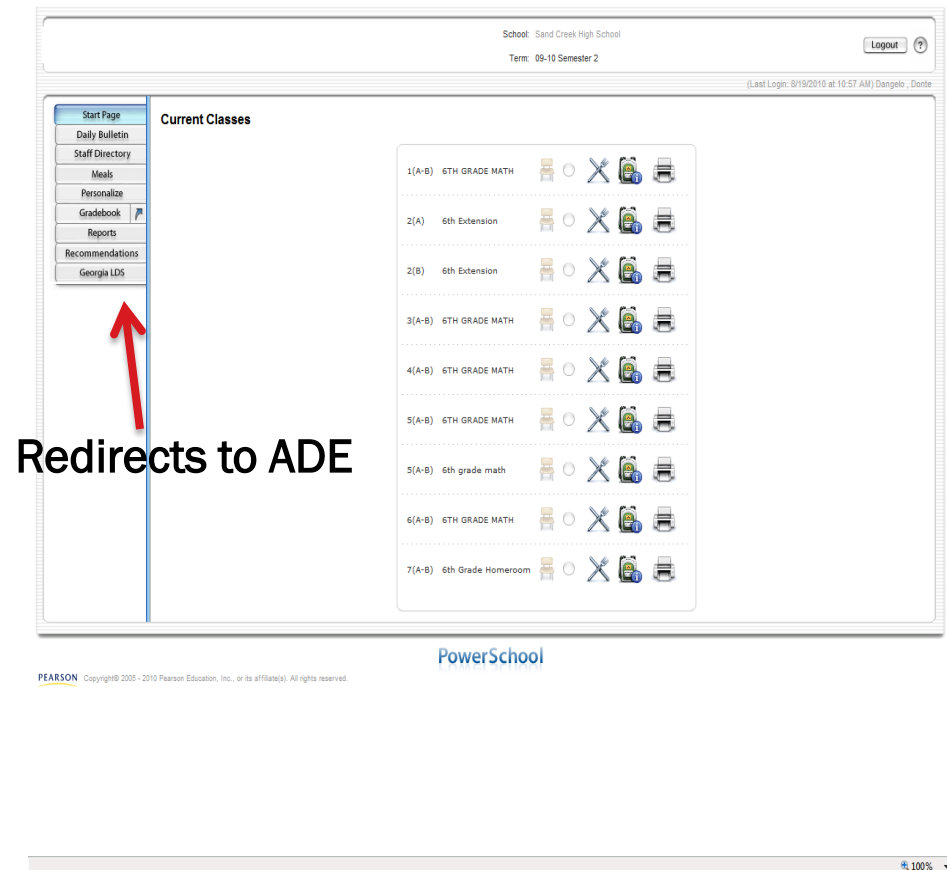
# Federated identity management

- Provides “single sign-on” convenience and efficiencies
- Recommend the use of SAML for SIS to ADE access
  - Benefits
    - No need for an additional ID or password to remember
    - When removed from SIS cannot access state systems
- For LEAs that do not have an SIS, ADE will continue to provide Direct Access to ADE systems

# Adding access to ADE systems

## Example of Federation

- Add a link to SIS system for state systems
- A web page calls an ADE provided webservice to create a SAML token
  - Email Address
  - Name (First, Middle, Last)
  - Stakeholder ID
  - Role
  - Entity



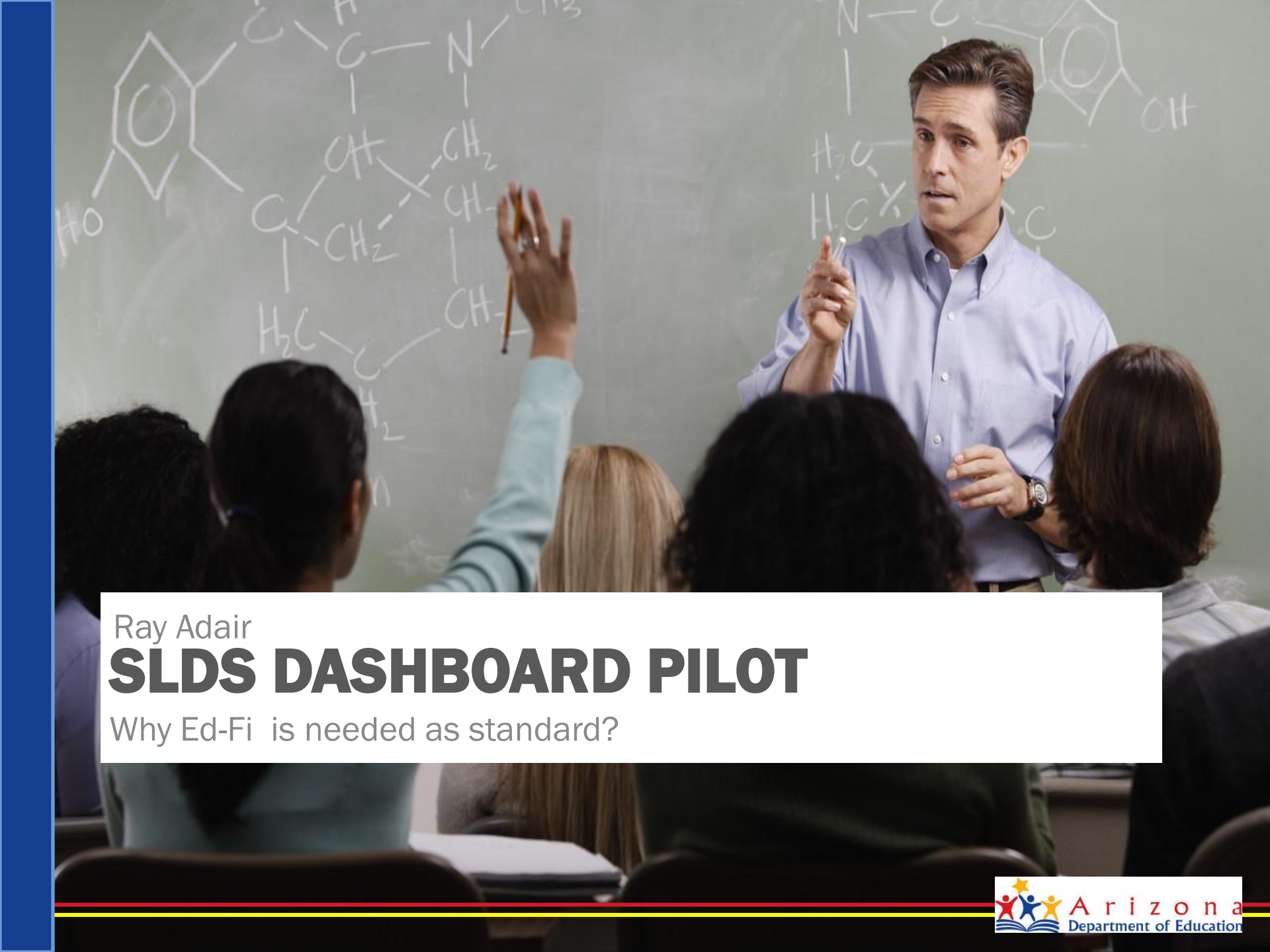
# Future ADE portal

- Landing page for state system access for Common Logon and EduAccess users
  - Common Logon and EduAccess must be sunset
- IMS system can add additional system access by role or specific applications
- Pages will be relevant based on role provided

# IMS requested DGC approval

- Direct federated access (using SAML) for all state LEAs to access State Education Systems with implementation complete by start of FY15 school year





Ray Adair

## **SLDS DASHBOARD PILOT**

Why Ed-Fi is needed as standard?



# State Longitudinal Data System

Create a State-wide Longitudinal Data System which provides Secure, Accurate, Accessible and Actionable education information to Legislators, Administrators, Teachers, Students and Parents.

## SLDS

## Objectives

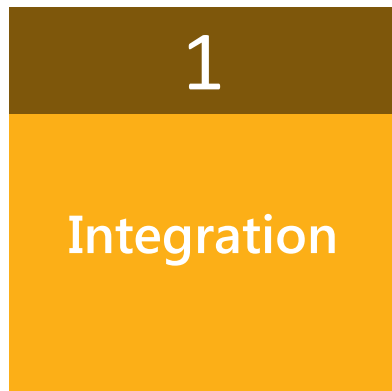
Data Governance –  
Accurate Data

Online Dashboards and  
Reports – Accessible and  
Actionable

SAML and AFDS  
based authentication  
and authorization  
solution - Secure

EDFI Compliant  
ODS – Accurate  
and Actionable

# AZ ED<sup>3</sup>S maturity levels defined



Identity, content, data  
and process



Community wide  
access



Everyone tracking to  
same the goals



Next Generation  
Learning

# ED<sup>3</sup>S lessons learned in Vail

## District Pilots (Requirements Gathering)

- Vail School District
  - Mid-November – Mid December
- One 5<sup>th</sup> grade class
  - 5 Dashboards from Georgia model
  - Historical information only
  - Assessments
  - Attendance
  - Enrollments and withdrawals
- Additional pilots
  - January thru February

A woman with dark hair and glasses is holding a wooden eraser in her right hand. She is looking towards the right. In the background, a chalkboard is visible with several multiplication problems written in chalk:  $10 \times 6 = 60$ ,  $11 \times 6 = 66$ , and  $12 \times 6 = 72$ .

Ed Jung and Mark Masterson

# **DATA GOVERNANCE UPDATE**

Approve CEDS and Ed-Fi data standards

# Driving Data Governance in ADE

## The Journey Begins

- Contracted Dr. Nancy Smith, Principal Consultant, DataSmith Solutions
  - Co-Founder of Data Quality Institute
  - Director SLDS Grant Program US Department of Education
  - R&E Texas Education Agency
  - Assistant Director NCEA
- Engagement Objective
  - Needs Assessment to identify what is working, what isn't and provide recommendations and roadmap to ensure Arizona has best-in-class Data Governance
  - Two-day visit (October 9-10) surveying key staff in ADE functional areas

# Data Governance needs assessment

## Dr. Smith visit overview and initial observations

- All functional areas understand the need for data governance and are prepared to make the journey
- Indicated relationship with IT has dramatically improved in the last 1.5 years
  - Business units are hopeful about current direction
- Business areas are eager to break down data silos
  - Data silos created out of necessity can be migrated or eliminated
- Functional reps believe data governance should be enterprise-wide and not housed in IT
  - The current data stewards group is too focused on EDFacts
  - Not of much value to business units as is
- Consistent concern about identifying Associate Superintendents as data owners and members of key data governance committee (Dr. Smith does not recommend this)

# Data Governance (Internal ADE)

## Next Steps

- Next steps
  - Dr. Smith will continue interviews with key program/IT/administrative stakeholders and draft report of findings and proposed roadmap
    - Final report will be presented to the Data Governance Commission
  - ADE is currently recruiting the position of State Education Data Officer (difficult position to fill)
    - Once filled need to form Internal Data Governance Council with properly-defined charter roles and responsibilities

# Another Reason for Data Governance

## Data Quality Campaign Survey (included in packet)

- Arizona's results clearly illustrate gaps
  - Matching data/moving data between P20W systems
  - SEA Data Governance policy
  - CEDS Adoption Data Warehouse /Statewide
  - Data Warehouse K12 – educator/staff data, other state agency student data
  - Public dashboards (only growth charts)
- Arizona's results clearly illustrate some traction
  - Annual State funding support to support build, maintenance, expansion of SLDS systems
  - Data Governance Committee
  - Data Warehouse K12 – some but not all student data elements
  - Research data access
  - Some student data reporting: Enrollment, Progress, Outcomes
  - State CEDS alignment Commitment
  - Financial reporting: State/District Improvements



# Requested action

- The Arizona Department of Education will adopt the following best practices:
  - Approve use of CEDS logical data model for ADE internal data use (Master Data Management) with immediate implementation.
  - Approve use of Ed-Fi for the ADE internal physical data model
  - Approve Ed-Fi as the single State Education (K-12) physical data standard for bi-directional data interchanges (Between LEAs and ADE) for all State mandated data requirements. Complete Statewide implementation by Beginning of FY2015 school year.
    - Direct ADE to proceed to develop requirements (Costs) for a State-Wide implementation of Ed-Fi Transmission Layer between LEA and SEA (LEA Data Extractors) with intention to complete implementation by school year 2015.



# **BUDGET UPDATE**

# SAIS Phase I Replacement

**Goal:** Begin to ensure accurate student payments

| Budget    | Spend     | Variance               |
|-----------|-----------|------------------------|
| \$500,000 | \$275,529 | 55% spent this quarter |

- First quarter accomplishments
  - Developed the structure and deliverables for projects
  - Completed Enterprise data modeling and their hierarchy
  - Identify the 155 applications that access Enterprise
  - Started to create standards and documentation for IT development processes to avoid repeating SAIS “mess” in new design
  - Identified necessary resources for work effort

# SAIS Phase I Replacement

**\$450,000 for quarter**

**Requesting \$950,000 YTD allocation**

**Goal: Begin build of new “Enterprise”; Define future student “Unique ID” process**

- Second quarter objectives
  - Working on creating the recommendations on how to process payments and to receive data from multiple sources
  - Begin identifying existing legislation and policies for inconsistencies, so that recommendations can be made to close gaps
  - Continue working with ADE auditors to identify audit requirements and standards for agency wide implementation
  - On board project resources as identified in forecasting plan
  - Continue standards and documentation for IT development processes
  - Begin requirements gathering for data attributes, screen layouts and applications accessing Enterprise
  - Complete analysis and start developing solution for the payments project

# Instructional Improvement System

**\$550,000 for quarter**

**Requesting \$550,000 YTD allocation**

**Goal: Tools for teachers to grow student success (REPLACE IDEAL)**

- Second quarter objectives (5 Consultants)
  - Analyze 200 Requirements across 3 or more systems (Current IDEAL)
  - IIS focus groups to identify statewide system needs
  - Write Project Investment Justification (PIJ)
  - Write Request for Proposal (RFP)
  - Solicit and Review Response

# Improve internal ADE programs

**Goal:** Create reliable, integrated technology services

| Budget    | Spend     | Variance    |
|-----------|-----------|-------------|
| \$900,000 | \$553,520 | 61.5% spend |

- First quarter accomplishments
  - Analyzed ADE data sets and portal to replicate Georgia SLDS dashboards
  - Began pilot dashboard development and build out
  - Completed workflow process maps for ESS and Alternate Assessments
  - Completed replacement assessment of existing portfolio of 120+ applications down to 21 workflow-based processes based on
  - Produced cost-benefit analysis to justify portfolio replacement including timelines, reasons for replacement and prioritization
  - Produced Enterprise target architecture that reflects an integrated and interoperable set of capabilities instead of stovepipe systems
  - Developed internal provisioning process for ADE employees and contractors
  - Reviewed and refined processes for federation approach
  - Technical design for infrastructure needs internal hardware and software

# Improve internal ADE programs

**\$500,000 for quarter**

**Requesting \$1,450,000 YTD allocation**

**Goal: Create reliable, integrated technology services**

- Second quarter objectives
  - Continued oversight of new application development to ensure adherence to target architecture
  - Continue workflow mapping of in-flight projects as well as select program areas (as determined by prioritization exercise)
  - Complete the mapping of all incoming data collections
  - Creation of IMS training materials for LEA administrators
  - Testing the process of LEA administrators managing their accesses to ADE systems
  - Test secure access systems and provide training before launch
  - Establishing the new IMS production environment

# Resource requests

- |                                    |            |
|------------------------------------|------------|
| • SAIS Phase I Replacement         | \$ 450,000 |
| • Instructional Improvement System | \$ 550,000 |
| • Improve internal ADE programs    | \$ 500,000 |

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|       |              |
|-------|--------------|
| TOTAL | \$ 1,500,000 |
|-------|--------------|



# AELAS FY2013 program budget

| Project                       | Approved Budget    | YTD Spend        | Remaining Budget Authorization |
|-------------------------------|--------------------|------------------|--------------------------------|
| SAIS Phase I Replacement      | \$500,000          | \$275,529        | \$224,471                      |
| Improve internal ADE programs | \$900,000          | \$553,520        | \$346,480                      |
| <b>Total</b>                  | <b>\$1,400,000</b> | <b>\$829,049</b> | <b>\$570,951</b>               |

| FY2013 AELAS BUDGET SNAPSHOT         |             |
|--------------------------------------|-------------|
| AELAS FY2012 Carryover               | \$2,056,537 |
| AELAS FY2013 Allocation              | \$6,200,000 |
| AELAS FY2013 Total Available Funding | \$8,256,537 |

# AELAS FY2013 program budget

| Project                          | Approved Budget    | YTD Spend        | October Request    | Updated Approved Budget | Remaining Budget Authorization |
|----------------------------------|--------------------|------------------|--------------------|-------------------------|--------------------------------|
| SAIS Phase I Replacement         | \$500,000          | \$275,529        | \$450,000          | \$950,000               | \$674,471                      |
| Instructional Improvement System | \$0                | \$0              | \$500,000          | \$500,000               | \$500,000                      |
| Improve internal ADE programs    | \$900,000          | \$553,520        | \$550,000          | \$1,450,000             | \$896,480                      |
| <b>Total</b>                     | <b>\$1,400,000</b> | <b>\$829,049</b> | <b>\$1,500,000</b> | <b>\$2,900,000</b>      | <b>\$2,070,951</b>             |

| FY2013 AELAS BUDGET SNAPSHOT                |             |
|---|-------------|
| <b>AELAS FY2012 Carryover</b>               | \$2,056,537 |
| <b>AELAS FY2013 Allocation</b>              | \$6,200,000 |
| <b>AELAS FY2013 Total Available Funding</b> | \$8,256,537 |

# Questions



Contact

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